Accordingly, Applicant contacted the Examiner, and the Examiner faxed the form PTO-892 to the Applicant.

Prior Art Rejections

Claims 1-6 and 9-18 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,411,410 to Wright et al. (hereinafter "Wright") and claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of U.S. Patent No. 6,229,634 to Smith et al. (hereinafter "Smith"). Applicant respectfully traverses these rejections in view of the following comments.

Of these claims, only claims 1, 4, and 6 are independent. Claim 1, among a number of unique features, requires:

> determining by said line terminator a first plurality of bits according to an identification of a selected element...said selected element being selected out of a set of in-line elements comprising at least said in-line element in order to execute said locally predefined function...
>
> ...at least one network terminator of said plurality of network terminators, is coupled via said in-line element to said line terminator by a dedicated branch and a common branch, respectively.

Applicant respectfully submits that the unique combination of claim 1 including at least the claimed first plurality of bits according to identification of a selected element and a second plurality of bits according to an identification of a locally predefined function included in the grant signal where a network terminator is coupled to the line terminator via an in-line element is absent from Wright. Applicant has carefully studied Wright's discussion of the tunable optical

bandpass filter that extract a single optical signal based on control information supplied from the wavelength control unit, which is not similar to a first plurality of bits identifying a selected in-line element, where the in-line element is coupled between the line terminator and the network terminator, as set forth in claim 1.

In the exemplary, non-limiting embodiment of the present invention, it is disclosed that a tree-like optical networks have a line terminator and a number of network terminators coupled to each other via a common and dedicated branches. A grant signal is distributed by the line terminator to different network terminators for upstream information signal. That is, the line terminator provides a permission signal that permits a particular network terminator to transmit data upstream at a particular point in time.

To support the required power-budget of the optical networks, the dedicated branches include an in-line elements such as optical amplifiers and optical switches. These in-line elements are included along the transmission path between the line terminator and the network terminators. These in-line elements must perform predefined functions at respective predefined time periods. To control these in-line elements, the grant signal sent to the network terminators includes a first plurality of bits and a second plurality of bits. The first plurality of bits identifies the in-line element being controlled and the second plurality of bits specifies the function that the identified in-line element should perform.

It will be appreciated that the foregoing remarks relate to the invention in a general sense. The remarks are not necessarily limitative of any claims and are intended only to help the Examiner better understand the above-described distinguishing aspects of the claims.

Wright, on the other hand, relates to a wavelength-division multiplexing in passive optical networks. Wright discloses an optical line termination (OLT) device (12), which generates a plurality of optical signals having different respective wavelengths. Each optical signal carries data. In Wright, a plurality of optical network units (ONUs) are connected to the OLT device (12) by way of a passive optical network (6) so as to receive the wavelength-division-multiplexed optical signals. Each ONU (14) has a wavelength selection unit (tunable filter 42) operable in dependence upon control information sent from the OLT (12) to the ONU (14). The control information may be included in the data-carrying optical signals themselves as overhead information, or may be sent separately by another optical signal that is wavelength-division multiplexed with the data-carrying optical signals. Accordingly, in Wright, the downstream capacity of the passive optical network can be flexibly shared by the different optical receivers. (*See* Abstract and col. 2, lines 4 to 36).

In particular, Wright discloses an ONU 14 having a tunable filter 42 or 410 selecting the optical signal and passing it to the optical receiver 44 or 420 that processes the selected optical signal (Figs. 7 and 19; col. 9, line 53 to col. 10, line 2, col. 15, line 59 to col. 16, line 8). Any overhead information is passed by the optical receiver 44 to the WCEU 46, which processes it and applies control information to the tunable filter 42 or 410 (col. 10, lines 4 to 22; col. 16, lines 1 to 8).

In Wright, however, there are no in-line elements, as set forth in claim 1. The tunable filter, alleged in-line element, is located in the optical network unit (*see e.g.* Figs. 7, 15, 16, and 19; col. 15, lines 59 to 61) and is not on the line *i.e.*, branches of the network, within the meaning

of claim 1. In other words, the tunable filter does not couple the line terminator to a network terminator as it is positioned within the optical network unit.

Moreover, in Wright, there is no teaching or suggestion of the first plurality of bits identifying a selected element, which is an in-line element. Wright discloses sending a control information "needed by the ONU" to select a new optical signal (col. 3, lines 32 to 46). That is, the control signal of Wright has a field specifying at least one optical receiver that is to select the corresponding optical signal. The fields then implicitly identify the optical signal to be selected by an optical receiver (col. 3, lines 31 to 46). In other words, in Wright, the control information included in the data packet provides information identifying a receiver and a respective wavelength. In Wright, however, the control information does not identify the tunable filter 42 (alleged in-line element) but rather the ONU to which it is addressed (col. 10, lines 60 to 67: "if it [WCEU] finds, in OH field, its own ONU designation number it determines that its ONU must tune in the relevant time slot to the optical signal whose wavelength corresponds to that field").

Therefore, "determining by said line terminator a first plurality of bits according to an identification of a selected element...said selected element being selected out of a set of in-line elements comprising at least said in-line element in order to execute said locally predefined function...at least one network terminator of said plurality of network terminators, is coupled via said in-line element to said line terminator by a dedicated branch and a common branch, respectively," as set forth in claim 1 is not disclosed by Wright. Wright lacks having the tunable filter positioned in-line between the line terminator and the network units and having the control information include bits identifying the tunable filter. For at least these exemplary reasons,

Applicant respectfully submits that claim 1 is patentably distinguishable and is patentable over Wright. Accordingly, Applicant respectfully requests the Examiner to withdraw this rejection of claim 1. Claims 2, 3, and 10-18 are patentable at least by virtue of their dependency on claim 1.

Moreover, claim 10 recites: "wherein said plurality of in-line elements are position on said common link and said dedicated branch between said line terminator and the plurality of network terminals". As explained above, Wright only teaches a tunable filter within the optical network unit and fails to teach or suggest having the in-line elements between the line terminal and the network terminals. For at least this additional exemplary reason, claim 10 is patentably distinguishable (and is patentable over) Wright.

Similarly, claim 11 recites: "said plurality of in-line elements facilitate transmission of signals from said network terminators to the line terminator and vise versa." Wright's tunable filter, on the other hand, is a filter that selects a signal from the plurality of received signals. In other words, Wright does not teach or suggest having the tunable filter facilitate transmission of the signals. For at least this additional exemplary reason, claim 11 is patentably distinguishable (and is patentable over) Wright.

Further, claim 12 recites: "each of said plurality of in-line elements facilitate transmission of a signal in a portion of a link from said common link and said dedicated link, where said in-line element is located." As explained in greater detail above, Wright only discloses a tunable filter positioned within the optical network unit for selecting a signal for reception. Clearly, this tunable filter does not facilitate transmission. Moreover, since Wright's tunable filter is not located on a link, it does not facilitate the transmission in a portion of a link where it is located.

For at least this additional exemplary reason, claim 12 is patentably distinguishable (and is patentable over) Wright.

Furthermore, claim 14 recites: "said second plurality of bits determines a type of operation for said selected element to perform" and claims 16 recites: "said second plurality of bits identify a different function depending on said selected element." The control information, as disclosed by Wright, only identifies the optical network unit and the wavelength on which the signal should be received. Wright fails to teach or suggest having a second plurality of bits identify type of operation or function for the tunable filter to perform at least because the tunable filter always performs the same type of operation *i.e.*, selecting a signal from a number of signals. In short, tunable filter of Wright always performs the operation of selecting a signal from a number of incoming signals. Wright fails to teach or suggest having the tunable filter perform other operations. Similarly, Wright does not teach or suggest the control information including a type of operation or different functions to perform depending on which tunable filter is selected. For at least these additional exemplary reasons, claims 14 and 16 are patentably distinguishable (and are patentable over) Wright.

Claim 17 recites: "said first plurality of bits is a branch identifier identifying at least a portion of the common link and the dedicated link." Wright only discloses that the control information identifies an optical network unit and fails to teach or suggest the control information identifying a portion of the link or a branch. For at least this additional exemplary reason, claim 17 is patentably distinguishable (and is patentable over) Wright.

Independent claims 4, 6, and 9 recite features similar to the features argued above with respect to claim 1, namely, determining a first plurality of bits according to an identification of a selected element...said selected element being selected out of said plurality of in-line elements to execute said locally predefined function and where said tree-like network includes a plurality of network terminators being coupled via said plurality of in-line elements to said line terminator by dedicated branches and a common branch, respectively. Therefore, arguments submitted with respect to claim 1 are respectfully submitted to apply with equal force herein. For at least substantially similar reasons, therefore, Applicant respectfully submits that claims 4, 6, and 9 are patentably distinguishable from (and is patentable over) Wright. In addition claim 5 is patentable at least by virtue of its dependency on claim 4.

Claims 7 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wright in view of Smith. Applicant respectfully traverses this rejection with respect to the dependent upon claim 6, claims 7 and 8. Applicant has already demonstrated that Wright does not meet all the requirements of independent claim 6. Smith is relied upon only for its teaching of an amplifier and a burst mode receiver in an optical network. As such, Smith clearly fails to cure the deficient teaching of Wright.

Moreover, the Examiner alleges that it would have been obvious to combine Wright and Smith to process incoming data bursts (*see* page 8 of the Office Action). Applicant respectfully points out that claim 6 recites that a selected element may be an amplifier. Wright teaches a tunable filter for selecting a signal. Replacing a tunable signal with an amplifier or a burst

receiver as allegedly taught by Smith would result in an unworkable combination, as the device of Wright would have been unable to select a signal out of the plurality of the received signals.

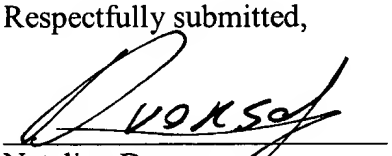
Clearly, Smith does not compensate for the above-identified deficiencies of Wright. Together, the combined teachings of these references would not have (and could not have) led the artisan of ordinary skill to have achieved the subject matter of claim 6. Since claims 7 and 8 dependent upon claim 6, they are patentable at least by virtue of their dependency.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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